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10/540,210	05/26/2006	Eckhard Waschkies	033033-028	5265

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KWOK, HELEN C	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In Figure 2, it appears that this figure should be labeled as – Prior Art – since it is being described in the "Prior Art" section of the specification.

In Figure 3, the axes (i.e. x-axis and y-axis) should be labeled with a description and its unit.

In Figures 2 and 4, the block elements (i.e. 7,8,9,10) should be labeled with its description.

Claim Objections

5. Claims 1-9 are objected to because of the following informalities. Appropriate correction is required.

In claim 1, line 1, what is the word "it" referring to? In line 3, the phrase "the region" should be changed to – a region --. In line 9, the phrase "the ratio" should be changed to – a ratio --.

In claim 2, line 3, the phrase "the time-dependent ratio function" should be changed to – a time-dependent ratio function --.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,920,014 (Waschkies) in view of U.S. Patent 3,868,847 (Gunkel).

With regards to claims 1-2, Waschkies discloses a process for assessing welded joints comprising, as illustrated in Figures 1.1 to 2.2, a welded joint 4 formed between at least two parts of a joint; at least one ultrasonic transmitter 2.1 penetrates a region of the formed welded joint with ultrasonic waves; at least one ultrasonic receiver 2.2 registers the changes in sound transmittance of the ultrasonic waves penetrating the region of the formed welded joint wherein sound is transmitted with transverse ultrasonic waves into the region of the welded joint such that a time-dependent changes in sound transmittance $D_t(t)$ of the transverse ultrasonic waves. (See, column 3, line 58

to column 7, line 62; column 8, line 9 to column 12, line 44). The only difference between the prior art and the claimed invention are sound is transmitted with longitudinal ultrasonic waves into the region of the welded joint such that a time-dependent changes in sound transmittance $D_l(t)$ of the longitudinal ultrasonic waves and a ratio of the sound transmittance $D_l(t)$ to sound transmittance $D_t(t)$ at time point for evaluating the welded point. Gunkel discloses a system for inspecting welds comprising, as illustrated in Figures 1- 8, ultrasonic transmitters 40,41A,42A,43A,44A,45,46 penetrate a region of the formed welded joint with ultrasonic waves; ultrasonic receivers 40,41B,42B,43B,44B,45,46 register the changes in sound transmittance of the ultrasonic waves penetrating the region of the formed welded joint wherein sound is transmitted with longitudinal waves and transverse ultrasonic waves into the region of the welded joint. (See, column 6, line 66 to column 14, line 30). It would have been obvious to a person of ordinary skill in the art at the time of invention to have readily recognize the advantages and desirability of employing a device that provides transmitters and receivers in sound transmittance of longitudinal and transverse waves as taught by Gunkel to the apparatus of Waschkies to provide better and overlapping inspections of the weld or welded areas. (See, column 1, line 63 to column 3, line 51 of Gunkel). Furthermore, a ratio of the sound transmittance $D_l(t)$ to sound transmittance $D_t(t)$ at time point for evaluating the welded point is a mere calculation that an artisan would have generated and manipulated based on experimentation of what is being measured to provide a better sensitivity signal to noise

ratio and to be able to provide various defects of the weld like burn through, cracks, slag inclusions, voids and poor fusion of the weld. (See, column 2, lines 8-22 of Gunkel).

With regards to claim 3, the references suggests the sound transmittance $D_l(t)$ and the sound transmittance $D_t(t)$; however, the references do not specify such parameters as claimed in the claim to derive the claimed equation. However, to have set such test characteristics and parameters as in the claim is considered to have been a matter of due to experimentation at different measurement points of the welded joint that would have been obvious to an artisan of ordinary skill in the art at the time of invention to derive the equation as claimed.

With regards to claims 4-9, the references, Waschkies and Gunkel, further suggest and teach the elements and features as claimed in these claims.

Conclusion

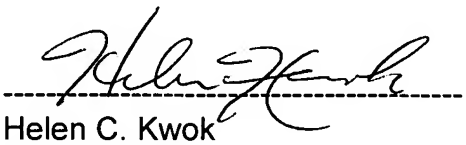
8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references cited are related to system for analyzing welded joints using longitudinal waves and/or transverse waves.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen C. Kwok whose telephone number is (571) 272-2197. The examiner can normally be reached on 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Helen C. Kwok
Art Unit 2856

hck
June 7, 2007